



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/045,511 | 11/07/2001 | Samuel M. Lester | 10015103-1 | 9935 |

7590 08/09/2005
HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER

MILIA, MARK R

ART UNIT PAPER NUMBER

2622

DATE MAILED: 08/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/045,511

Applicant(s)

LESTER ET AL.

Examiner

Mark R. Milia

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-23 is/are rejected.
- 7) ☒ Claim(s) 9 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>11/7/01</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1, 2, 5, 7, 9-15, 18, and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 10 recite the limitation "the printing device" in the last limitation. There is insufficient antecedent basis for this limitation in the claim. It is not explicitly clear as to which printing device is being referred to.

Claim 2 recites the limitation "the printing device". There is insufficient antecedent basis for this limitation in the claim.

Claim 5 recites the limitation "the printing device" in the first limitation. There is insufficient antecedent basis for this limitation in the claim.

Claim 7 and 11 recite the limitation "the printing device" in the second limitation. There is insufficient antecedent basis for this limitation in the claim.

Claim 9 recites the limitation "the printing device" in the first and second limitations. There is insufficient antecedent basis for this limitation in the claim.

Claim 18 recites the limitation "the printing device" in the first and second limitation. There is insufficient antecedent basis for this limitation in the claim.

Claims 12 and 19 recite the limitation "the other printing device" in the last limitation. There is insufficient antecedent basis for this limitation in the claim. It is not explicitly clear as to which printing device is being referred to.

Claims 13-15 recite the limitation "the other printing device" in the last limitation. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, 10, 12-17, and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6825943 to Barry et al. in view of U.S. Patent Application Publication No. 2004/0042042 to Utsunomiya.

Regarding claims 1 and 10, Barry discloses a system implemented in a printing device, the method comprising: receiving a request to print a document (see Fig. 1a and column 3 lines 13-15), partitioning the document into one or more blocks (see Fig. 1, column 3 lines 48-54, column 4 lines 30-40, and column 5 lines 8-60), communicating, to each of one or more additional processing devices, at least one of the one or more blocks (see Fig. 1, column 5 lines 8-60, and column 13 line 63-column 14 line 42), receiving, from the one or more additional processing devices, a set of print-ready bits

corresponding to the blocks communicated to the one or more additional processing devices (see Fig. 1, column 5 lines 8-60, and column 13 line 63-column 14 line 42), and using, at the printing device, the received print-ready bits to print the document (see Fig. 1b, column 8 lines 52-58, and column 8 line 65-column 9 line 10).

Barry does not disclose expressly communicating one or more blocks to one or more printing devices.

Utsunomiya discloses communicating one or more blocks to one or more printing devices (see Fig. 1 and paragraphs [0015] and [0018]).

Regarding claims 12 and 19, Barry discloses a system implemented in a printing device, the method comprising: receiving, one or more portions of a document to be printed at the printing device (see Fig. 1 and column 5 lines 8-60), converting the one or more portions to a print-ready format (see column 5 lines 8-60), and returning the one or more portions in the print-ready format to the other printing device for printing at the other printing device (see column 8 lines 52-58 and column 8 line 65-column 9 line 10).

Barry does not disclose expressly the use of multiple printing devices to process one or more portions of a document.

Utsunomiya discloses the use of multiple printing devices to process one or more portions of a document (see Fig. 1 and paragraphs [0014], [0015], and [0018]).

Regarding claim 21, Barry discloses a system comprising: a principal printing device including a collective printing control module and a print engine (see Fig. 1), wherein the collective printing control module is configured to communicate, upon receipt of a request from a computing device to print a document, a different portion of

Art Unit: 2622

the document to each of the plurality of buddy printing devices (see column 4 lines 30-40, column 5 lines 8-60, and column 13 line 63-column 14 line 42), wherein the buddy controller module of each buddy printing device is configured to convert the portion of the document received from the principal printing device into a print-ready format and return the portion in the print-ready format to the principal printing device (see column 5 lines 8-60 and column 13 line 63-column 14 line 42, reference shows that one or more portions of a document are processed by one or more raster image processors or processed by one or more nodes located on a network and then sent to a merging processor of a collecting node to execute the print job, all of which is analogous to the claim limitation), and wherein the collective printing control module is further configured to transfer the portions in print-ready format to the print engine for printing (see column 8 lines 52-58 and column 8 line 65-column 9 line 10).

Barry does not disclose expressly a plurality of buddy printing devices, each coupled to the principal printing device via a network, and each including a buddy controller module.

Utsunomiya discloses a plurality of buddy printing devices, each coupled to the principal printing device via a network, and each including a buddy controller module (see Fig. 1 and paragraphs [0014], [0015], and [0018]).

Barry & Utsunomiya are combinable because they are from the same field of endeavor, dividing print jobs for parallel processing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the use of multiple printing devices to process blocks of a print job as described by Utsunomiya with the system of Barry.

The suggestion/motivation for doing so would have been to reduce the printing time of a print job (see paragraph [0004] lines 2-5 of Utsunomiya).

Therefore, it would have been obvious to combine Utsunomiya with Barry to obtain the invention as specified in claims 1, 10, 12, 19, and 21.

Regarding claim 2, Barry and Utsunomiya disclose the system discussed in claim 1, and Barry further discloses converting, at the printing device, at least one of the one or more blocks into print-ready bits (see Fig. 1, column 5 lines 8-60, column 8 lines 52-58, and column 8 line 65-column 9 line 10).

Regarding claim 3, Barry and Utsunomiya disclose the system discussed in claim 1, and Utsunomiya further discloses wherein receiving the request comprises receiving the request to print the document from a computing device via a network (see Fig. 1 and paragraphs [0014] and [0015]) and Barry further discloses communicating at least one of the one or more blocks comprises communicating at least one of the one or more blocks to each of one or more additional printing devices via the network (see column 13 line 63-column 14 line 42).

Regarding claim 4, Barry and Utsunomiya disclose the system discussed in claim 1, and Barry further discloses determining a value P for a page of the document having a particular page number (*PageNumber*) based on-how many printing devices

(*NumPrinters*) are in the one or more additional printing devices by performing the calculation, $P = \text{PageNumber} \bmod \text{Numprinters}$, and communicating the page to the P th printing device of the one or more additional printing devices (see column 3 lines 42-54 and column 16 lines 44-53).

Regarding claim 5, Barry and Utsunomiya disclose the system discussed in claim 1, and Utsunomiya further discloses identifying a plurality printing devices to which the printing device is communicatively coupled (see Figs. 1 and 2 and paragraphs [0014], [0015], [0018], and [0019]) and selecting one or more of the plurality of printing devices as the one or more additional printing devices to which the one or more blocks are communicated (see Fig. 2 and paragraphs [0018], [0019], and [0024]).

Regarding claim 6, Barry and Utsunomiya disclose the system discussed in claim 1, and Barry further discloses wherein at least one of the blocks includes a different number of pages of the document than the other blocks (see column 12 line 58-column 13 line 21).

Regarding claim 13, Barry and Utsunomiya disclose the system discussed in claim 12, and Barry further discloses wherein returning the one or more portions comprises returning, in the print-ready format, each page of each of the one or more portions to the other printing device as soon as the print-ready format for the page has been generated (see column 8 lines 52-58 and column 8 line 65-column 9 line 10, reference shows that once the portion of the document has been RIPPed it is sent to the merging unit which is analogous to the claim limitation).

Regarding claim 14, Barry and Utsunomiya disclose the system discussed in claim 12, and Barry further discloses wherein returning the one or more portions comprises returning, in the print-ready format, each portion to the other printing device as soon as the print-ready format for the portion has been generated (see column 8 lines 52-58 and column 8 line 65-column 9 line 10, reference shows that once the portion of the document has been RIPPed it is sent to the merging unit which is analogous to the claim limitation).

Regarding claim 15, Barry and Utsunomiya disclose the system discussed in claim 12, and Barry further discloses wherein returning the one or more portions comprises returning, after each of the one or more portions has been converted to the print-ready format, the one or more portions to the other printing device (see column 8 lines 52-58 and column 8 line 65-column 9 line 10, reference shows that once the portion of the document has been RIPPed it is sent to the merging unit which is analogous to the claim limitation).

Regarding claims 16 and 20, Barry and Utsunomiya disclose the system discussed in claims 12 and 19, and Barry further discloses wherein converting the one or more portions to a print-ready format comprises using a portable document format (PDF) interpreter to convert each of the one or more portions to print engine-ready raster bits (see column 5 lines 8-60, column 9 line 33-column 10 line 5, and column 10 lines 23-37 and 55-63).

Regarding claim 17, Barry and Utsunomiya disclose the system discussed in claim 12, and Barry further discloses wherein receiving the one or more portions

comprises receiving both the document and an indication of the one or more portions in the document (see column 12 line 58-column 13 line 2).

Claims 7, 11, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barry and Utsunomiya as applied to claims 6, 10, and 21 above, and further in view of U.S. Patent No. 5913018 to Sela.

Barry discloses determining a number of pages to be included in the block communicated to a particular additional processing device (see column 12 line 58-column 13 line 21).

Barry and Utsunomiya do not disclose expressly sending a block of a test document to each of the one or more additional printing devices, measuring, for each of the one or more additional printing devices, a time elapsed between sending the block to the printing device and receiving print-ready bits corresponding to the block from the printing device, and determining a number of pages to be included in the block communicated to a particular additional printing device based on the measured time for the particular additional printing device relative to the measured times for the other additional printing devices.

Seal discloses sending a block of a test document to each of the one or more additional printing devices, measuring, for each of the one or more additional printing devices (see column 4 lines 6-10 and column 6 lines 29-44), a time elapsed between sending the block to the printing device and receiving print-ready bits corresponding to the block from the printing device (see column 4 lines 6-10 and column 6 lines 29-44),

Art Unit: 2622

and determining a number of pages to be included in the block communicated to a particular additional printing device based on the measured time for the particular additional printing device relative to the measured times for the other additional printing devices (see Fig. 4, column 6 line 45-column 7 line 21, and column 8 lines 37-59).

Barry, Utsunomiya, & Sela are combinable because they are from the same field of endeavor, dividing and processing portions of print jobs for execution.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the sending of a test document to determine the time needed to process a block of data as described by Sela with the system of Barry and Utsunomiya.

The suggestion/motivation for doing so would have been to eliminate or reduce the need to pre-render and compress print information, reduce the memory required, and control the speed of the printer (see column 4 lines 1-3 and column 5 lines 8-31 of Sela).

Therefore, it would have been obvious to combine Sela with Barry and Utsunomiya to obtain the invention as specified in claims 7, 11, and 22.

Claims 8, 18, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barry and Utsunomiya as applied to claims 1, 12, and 21 above, and further in view of U.S. Patent No. 6823147 to Jackelen et al.

Regarding claim 8, Barry and Utsunomiya do not disclose expressly receiving, from one of the additional printing devices, an indication that the one additional printing

Art Unit: 2622

device is not able to convert a block to print-ready bits and removing the one additional printing device from the one or more additional printing devices.

Jackelen discloses receiving, from one of the additional printing devices, an indication that the one additional printing device is not able to convert a block to print-ready bits (see column 4 lines 3-7 and 10-35) and removing the one additional printing device from the one or more additional printing devices (see column 3 lines 30-31, reference shows that if a mismatch occurs that the print job may be canceled, canceling a print job is analogous to removing a printer because in both cases the printer is not used due to the mismatch, also the removal of a printer that is not able to convert the pertinent print data is an obvious step and one that is known in the art).

Regarding claims 18 and 23, Barry and Utsunomiya do not disclose expressly checking, in response to receiving the one or more portions of the document, whether the printing device can currently devote resources to converting the one or more portions (see column 4 lines 3-35), if the printing device cannot currently allocate resources to converting the one or more portions, then communicating to the other printing device an indication that the printing device cannot currently devote resources to converting the one or more portions (see column 4 lines 10-15 and 30-35), and otherwise, performing the converting and returning (see column 4 lines 16-29).

Barry, Utsunomiya, & Jackelen are combinable because they are from the same field of endeavor, processing of print jobs.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the detecting and notifying of matching and mismatching

between print job attributes and printer resources as described by Jackelen with the system of Barry and Utsunomiya.

The suggestion/motivation for doing so would have been decrease the time wasted processing a print job when the printer cannot successfully execute the job (see column 1 lines 48-56 of Jackelen).

Therefore, it would have been obvious to combine Jackelen with Barry and Utsunomiya to obtain the invention as specified in claims 8, 18, and 23.

Allowable Subject Matter

4. Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The processing of a print job by the printer that sends portions of the job to additional printing devices and only using the returned information when it is received in a timely manner as described in claim 9 is believed by the Examiner to be an allowable limitation.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. To further show the state of the art refer to the attached Notice of References Cited.

Art Unit: 2622


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark R. Milia whose telephone number is (571) 272-7408. The examiner can normally be reached M-F 8:00am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Coles can be reached at (571) 272-7402. The fax number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mark R. Milia
Examiner
Art Unit 2622

MRM


EDWARD COLES
SUPERVISORY PATENT EXAMINER
BIOLOGY CENTER 2600